1. FEIRSHTAT, N. [I.]

2. USSR (600)

4. Tractors--Repairing

7. Eliminating seasonality in repairing tractors and agricultural machinery and agricultural machinery at machine-tractor stations and state farms engaged in cotton growing, Khlopkovodstvo, 3, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

[illegible]

MUKHAMEDZHANOV, M.; FERSHTAT, N.; RZHEVSKIY, G.; ZHURAVLEV, B.S., redaktor; SOLYANOVA, N.N., redaktor; RAKHMATULLIN, F., tekhnicheskiy redaktor

[Checkrow cultivation of cotton] Kvadratno-gnezdovaia kul'tura khlopchatnika. Tashkent, Go.s izd-vo UzSSR, 1955. 112 p. (MIRA 9:8)
(Cotton growing)

FERSHTAT, Naum Il'ich, zasluzhennyy mekhanizator Uzbekskoy SSR; FRENKIN, Vladimir Mikhaylovich, zasluzhennyy mekhanizator Uzbekskoy SSR; GRUSHIN, A., red.; ABRASOV, T., tekhred.

[Over-all mechanization of cotton-growing in Uzbekistan] Kompleksnaia mekhanizatsiia khlopkovodstva v Uzbekistane. Tashkent, Gos.izd-vo Uzbekskoi SSR, 1960. 63 p. (MIRA 14:3)

(Uzbekistan--Cotton growing) (Farm mechanization)

137-58-6-11481

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 33 (USSR)

AUTHOR: Fershtenfel'd, A.A.

TITLE: Automation of Certain Hydrometallurgical Processes at the Noril'sk Kombinat (Avtomatizatsiya nekotorykh protsessov gidrometallurgii na Noril'skom kombinate)

PERIODICAL: Byul. Tsentr. in-t inform. M-va tsvetn. metallurgii SSSR, 1957, Nr 2, pp 20-23

ABSTRACT: The system of automatic control (SAC) for hydrometallurgical processes of precipitation of metal consists of the following interrelated automatic regulating devices (A): An A for piezoelectrical measurement of the level of the salt solution in a tank and a temperature A of electronic balanced-bridge type functioning as a unit with the first A and influencing the delivery of steam to the tank directly and that of hypochlorite through a special metering device. An overall diagram of the SAC for hydrometallurgical reduction and the electric circuitry are presented.

M.L.

Card 1/1 1. Metals--Reduction 2. Control systems--Design 3. Control systems--Equipment

14(5) SOV/112-59-5-9631

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 169 (USSR)

AUTHOR: Shteyn, S. A., Fershtenfel'd, A. A., Mednis, E. F., and Kritskiy, Ye. L.

TITLE: Comparative Tests of Various Methods of Automatic Control for Ball Mills

PERIODICAL: Obogashcheniye rud, 1957, Nr 6, pp 55-66

ABSTRACT: Three methods of automatic control of mill operation were tested at the Noril'sk concentrating plant: constant weight of feed, constant noise, and constant circulating load; the tests were conducted from January, 1956, to April, 1957. A short description and a comparison of the above control methods are given. Seventeen illustrations.

A.A.S.

Card 1/1

SADYKHOV, A.G., starshiy nauchnyy sotrudnik (Baku, Balakhanskoye shosse, 1937-y kvartal, d.1, blok, 3, kv.19); FERSHTER, B.V.

Development of cancer on old scars and following chronic osteomyelitis. Ortop. travm. i protez. 24 no.2:54-57 F'63. (MIRA 16:10)

1. Iz ortopedicheskogo otdeleniya (zav. - kand.med.nauk A.G. Sadykhov) Bakinskogo instituta travmatologii i ortopedii (dir. - kand.med.nauk A.A.Ismailov).

MARMER, Eduard Nikitovich; FERSHTER, Levit Moiseyevich; SAPAROVA, A.L., red.; VORONIN, K.P., tekhn.red.

[Design of vacuum systems of electric furnaces] Raschet i proektirovanie vakuumnykh sistem elektropechei. Moskva, Gos. energ.izd-vo, 1960. 97 p. (Biblioteka elektrotermista, no.3). (MIRA 14:2)

(Electric furnaces) (Vacuum apparatus)

FERSHTER, L. M.

PHASE I BOOK EXPLOITATION SOV/5038

Marmer, Eduard Nikitovich, and Levit Moiseyevich Fershter

Raschet i proyektirovaniye vakuumnykh sistem elektropechey (Calculating and Designing the Vacuum Systems in Electric Furnaces) Moscow, Gosenergoizdat, 1960. 97 p. 7,000 copies printed. (Series: Biblioteka elektrotermista, vyp. 3)

Ed. (of the Series): A.D. Svenchanskiy; Ed.: A.L. Saparova; Tech. Ed.: K.P. Voronin.

PURPOSE: This booklet is intended for engineers and technicians of plants and scientific research institutes.

COVERAGE: The authors review methods of selecting vacuum equipment, present characteristics of this equipment, and discuss its location in vacuum systems of electric furnaces. Basic theoretical principles applied in calculating vacuum systems are discussed briefly. Examples of designing vacuum systems for various electric furnaces are also included. No personalities are mentioned. There are 40 references: 28 Soviet, 10 English, 1 French, and 1 German.

Card 1/3

Calculating and Designing the Vacuum Systems (Cont.) SOV/5038

TABLE OF CONTENTS:

Card 2/3

Calculating and Designing the Vacuum Systems (Cont.) SOV/5038

AVAILABLE: Library of Congress

Card 3/3

VK/wrc/gmp
5-17-61

L 07380-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6027753 (N) SOURCE CODE: UR/0370/66/000/004/0163/0166

AUTHOR: Vigdorovich, V. N. (Moscow); Fershter, L. M. (Moscow) 18

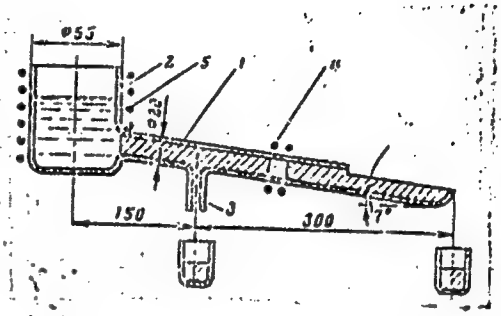
ORG: None

TITLE: Continuous zone-transport recrystallization in single-stage installations

SOURCE: AN SSSR. Izvestiya. Metally, no. 4, 1966, 163-166

TOPIC TAGS: zone refining, tin, metal purification

ABSTRACT: Data are given from experiments of tin purification by the zone-transport method on the single-stage unit shown in the figure. Quartz tube 1 with a diameter of 20 mm has a longitudinal cutout on one end, is connected to quartz vessel 2 on the other end and has a tubular branch 3. The melting zone (70-80 mm long) is produced by electric resistance heater 4 which moves at a rate of 5 cm/hr (from right to left). A second resistance heater 5 is used for melting the initial material and maintaining it in the molten state (250-265°C). Tables are given showing the results of spectral analysis for determination of copper, silver and lead



Card 1/2 UDC: 669.2/8.43

L 07380-67
ACC NR: AP6027753 O

impurities for fifteen passes through this single-stage equipment. The repeatability of the results, the homogeneity of the material and the efficiency factors achieved are encouraging and indicate that further work should be done on perfecting this type of equipment for continuous zone refining. Orig. art. has: 3 figures, 3 tables.

SUB CODE: 11/ 13/ SUBM DATE: 08Jan65/ ORIG REF: 007/ OTH REF: 005

Card 2/2 egh

Yaghtman, Yu. M.

... of artificial earth satellites in ...

Geodeziya i kartografiya, no. 11, 1964, 67-77

... artificial earth satellite, satellite photogrammetry, geodesy, geodetic

... past observations of the moon's orbit are: 1) observation of satel-

L 17[illegible]-65

ACCESSION NR: AP4049472

[illegible] and is described, as is the Baker-Nann camera, a device for accurate [illegible] British Ascania movie-theodolite. [illegible]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00

SUB CODE: MS, SV NO REF SOV: 003 OTHER: 001

Card 2/2

VERSHTAM, S.I., inzhener.

Coefficient of demand of groups of welding transformers. Prom. energ. 12 no.7:31-32 Jl '57. (MLRA 10:8)
(Electric welding) (Electric transformers)

SPEVAK, L.B.; FERSHTER, S.I.

Concerning M.R.Naifel'd's article "Pressing problems in the prevention of injuries from electricity." Prom. energ. 18 no.9:54-55 S '63. (MIRA 16:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva nechernozemnoy zony SSSR (for Spevak). 2. Giproneftestroy, Kuybyshev (for Fershter).

MURAV'YEV, V.P., kand.tekhn.nauk; FERSHTER, S.I., inzh.

Start of three-phase motors from a network with limited power handling capacity. Prom.energ. 19 no. 4:18-20 Ap '64.
(MIRA 17:5)

1. Kemerovskiy gornyy institut (for Murav'yev). 2. Giproneftestroy, g. Kuybyshev (for Fershter).

FERSHTUDT, I.I.; FAYNBERG, Z.L.

Make wider use of the new equipment. Tekst.prom. 21 no.5:27-30 My '61. (MIRA 15:1)

(Spinning machinery)

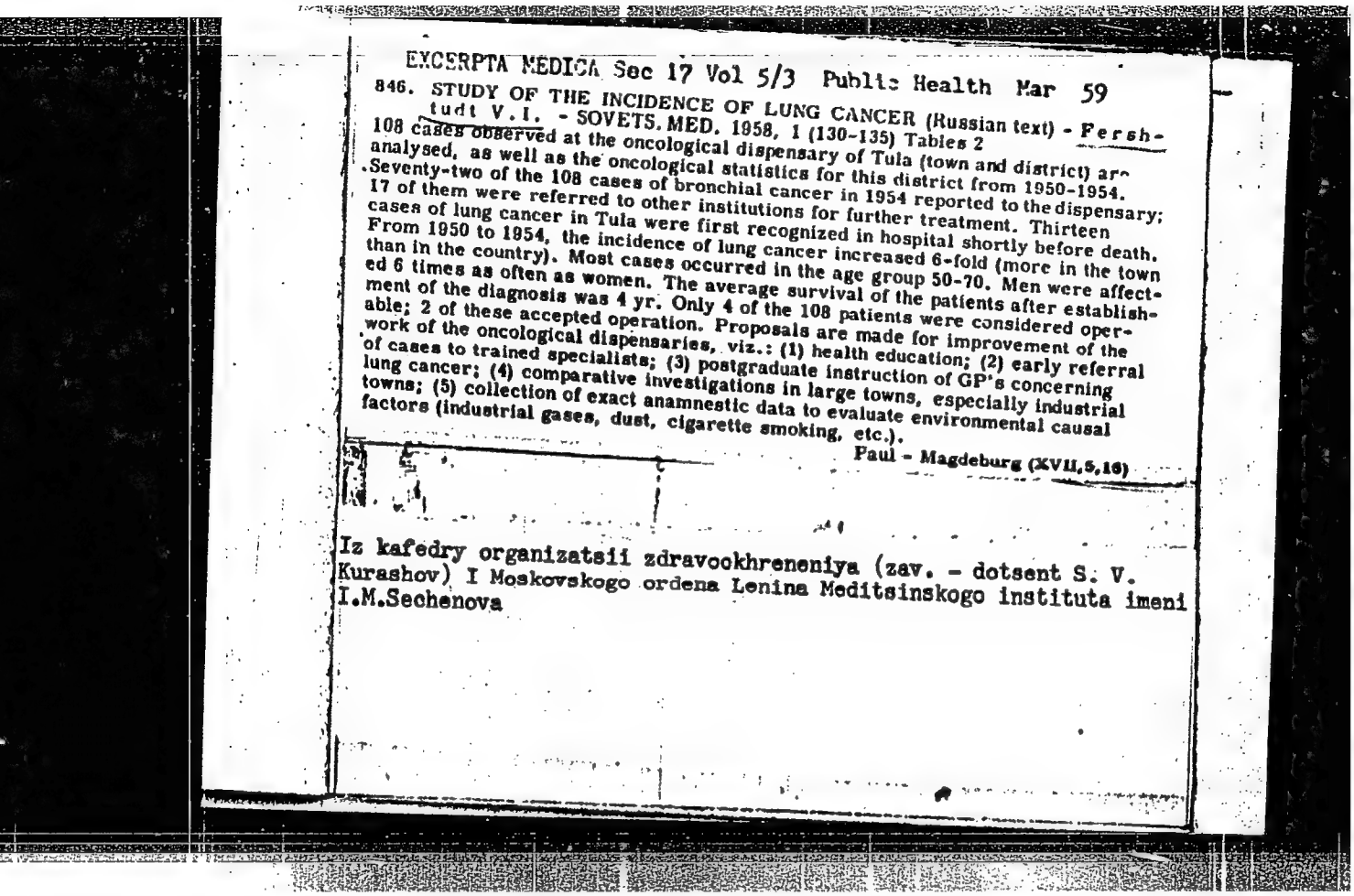
Cand Med Sci

FERSHTUDT, V. I.

Dissertation: "Relief Measures in the Cases of the Acute Diseases of Abdominal Organs Requiring Immediate Surgical Treatment."
12/6/50

First Moscow Order of Lenin Medical Inst.

SO Vecheryaya Moskva
Sum 71



EXCERPTA MEDICA Sec 17 Vol 5/3 Public Health Mar 59

846. STUDY OF THE INCIDENCE OF LUNG CANCER (Russian text) - Fershtudt V.I. - SOVETS. MED. 1958, 1 (130-135) Tables 2

108 cases observed at the oncological dispensary of Tula (town and district) are analysed, as well as the oncological statistics for this district from 1950-1954. Seventy-two of the 108 cases of bronchial cancer in 1954 reported to the dispensary; 17 of them were referred to other institutions for further treatment. Thirteen cases of lung cancer in Tula were first recognized in hospital shortly before death. From 1950 to 1954, the incidence of lung cancer increased 6-fold (more in the town than in the country). Most cases occurred in the age group 50-70. Men were affected 6 times as often as women. The average survival of the patients after establishment of the diagnosis was 4 yr. Only 4 of the 108 patients were considered operable; 2 of these accepted operation. Proposals are made for improvement of the work of the oncological dispensaries, viz.: (1) health education; (2) early referral of cases to trained specialists; (3) postgraduate instruction of GP's concerning lung cancer; (4) comparative investigations in large towns, especially industrial towns; (5) collection of exact anamnestic data to evaluate environmental causal factors (industrial gases, dust, cigarette smoking, etc.).

Paul - Magdeburg (XVII,5,16)

Iz kafedry organizatsii zdravookhraneniya (zav. - dotsent S. V. Kurashov) I Moskovskogo ordena Lenina Meditsinskogo instituta imeni I.M.Sechenova

FERSHTUDT, V.I.

Problems of lung cancer morbidity among the population of Moscow, 1955 - 1958. Trudy 1-MI 16:51-62 '62. (MIRA 17:4)

1. Iz kafedry organizatsii zdravookhraneniya (zav. - dotsent S.V.Kurashov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

RODOV, Ya.I.; KOSAGOVSKIY, I.V.; GOMEL'SKAYA, G.L.; LAVROVA, I.T.; SOBOLEVSKIY, G.N.; SHTRAUS, Z.E.; TROSHINA, I.M.; FERSHTUDT, V.I.

"Theory and organization of the Soviet public health system" by G.A. Batkis and L.G.Lekarev. Reviewed by IA.I. Rodov and others. Zdrav. Ros. Feder. 6 no.4:41-42 Ap '62. (MIRA 15:4)
(PUBLIC HEALTH) (BATKIS, G.A.) (LEKAREV, L.G.)

GOMEL'SKAYA, G.L.; KOSAGOVSKIY, I.V.; LAVROVA, I.G.; RODOV, Ya.I.; SOBOLEVSKIY, G.N.; TROSHINA, I.M.; FERSHTUDT, V.I.; SHTRAUS, Z.E.; MEL'NIKOV, Ye.B., red.

[Problems for practical work on the organization of public health] Zadaniia k prakticheskim zaniatiiam po organizatsii zdravookhraneniia. Izd.2., ispr. i dop. Moskva, 1963. 167 p. (MIRA 16:12)

1. Moscow. Pervyy meditsinskiy institut. Kafedra organizatsii zdravookhraneniya. 2. Kafedra organizatsii zdravookhraneniya Pervogo moskovskogo meditsinskogo instituta (for all except Mel'nikov).

(PUBLIC HEALTH—HANDBOOKS, MANUALS, ETC.)

1. FERSHTUT, N. S.; TORBAN, S. S.

2. USSR (600)

4. Ice Fishing

7. Mechnization of ice fishing, Ryb. khiz., 29, no. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

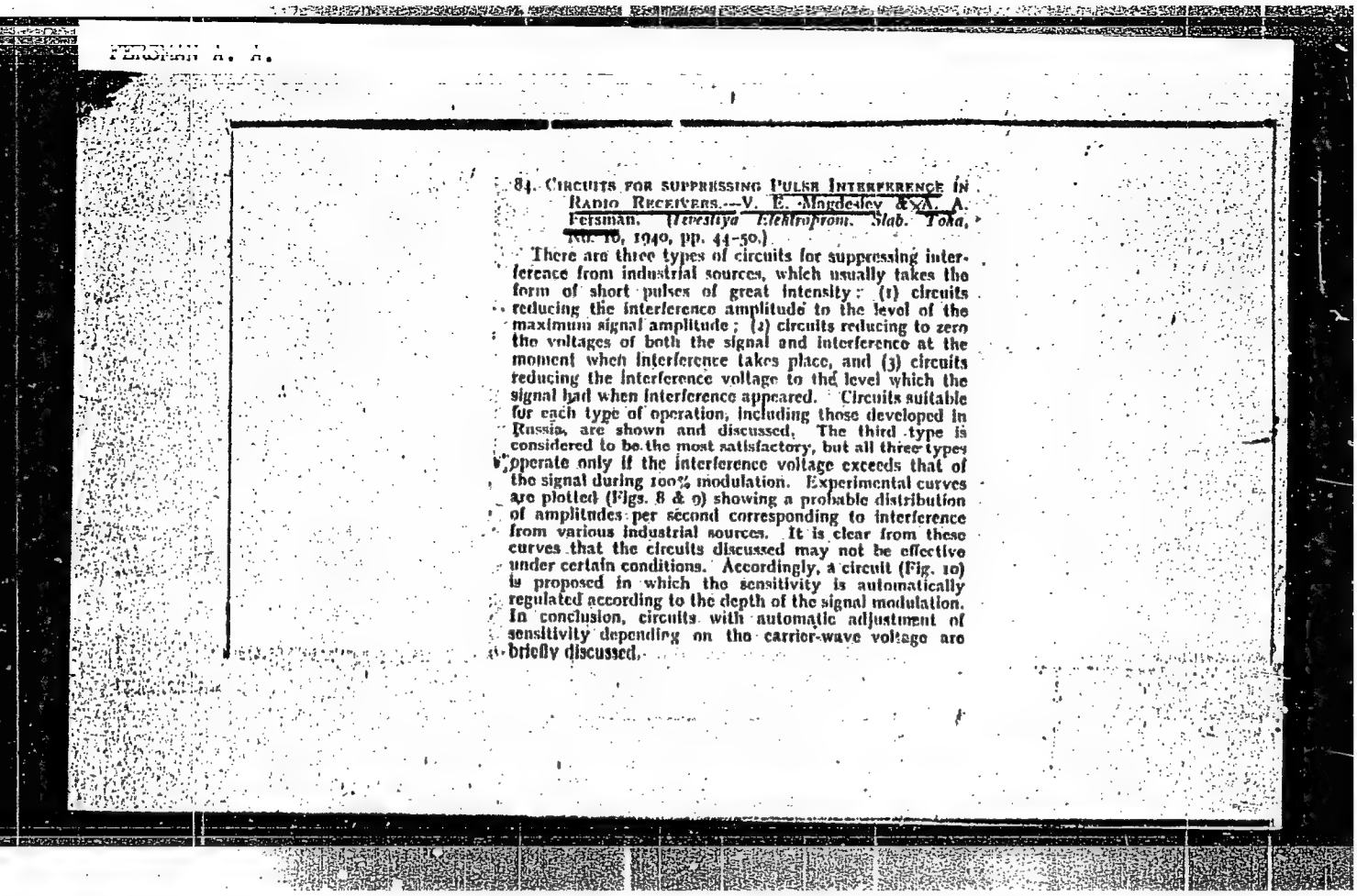
1. FERSHTUT, N.S.

2. USSR (600)

4. Nets

7. Self-opening trap for a conical pick-up net. Ryb. khoz. 29, No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.



84. Circuits for suppressing Pulse Interference in Radio Receivers.—V. E. Magdeslev & A. A. Fersman. (*Vestnik Elektroprom. Slab. Toka*, No. 10, 1940, pp. 44–50.)

There are three types of circuits for suppressing interference from industrial sources, which usually takes the form of short pulses of great intensity: (1) circuits reducing the interference amplitude to the level of the maximum signal amplitude; (2) circuits reducing to zero the voltages of both the signal and interference at the moment when interference takes place, and (3) circuits reducing the interference voltage to the level which the signal had when interference appeared. Circuits suitable for each type of operation, including those developed in Russia, are shown and discussed. The third type is considered to be the most satisfactory, but all three types operate only if the interference voltage exceeds that of the signal during 100% modulation. Experimental curves are plotted (Figs. 8 & 9) showing a probable distribution of amplitudes per second corresponding to interference from various industrial sources. It is clear from these curves that the circuits discussed may not be effective under certain conditions. Accordingly, a circuit (Fig. 10) is proposed in which the sensitivity is automatically regulated according to the depth of the signal modulation. In conclusion, circuits with automatic adjustment of sensitivity depending on the carrier-wave voltage are briefly discussed.

IL'GEKIT, F.E.; SHAPIRO, D.N.; FOMENKO, L.A.; KARPINSKIY, M.A.; YERSMAN, A.A.; PEVNITSKIY, V.P. [reviewers]; LYUTOV, S.A. [author].

"Industrial interference with radio reception and its control." S.A.Liutov. Reviewed by F.E.Il'gekit, D.N.Shapiro, L.A.Fomenko, M.A.Karpinskii, A.A. Yersman, V.P.Pevnitskii. Elektrichestvo no.12:85-87 D '53. (MLRA 6:11)

1. TSentral'naya laboratoriya po bor'be s industrial'nymi radiopomekhami MESEP SSSR (for Il'gekit, Shapiro and Fomenko). 2. Leningradskiy elektrotekhnicheskiy institut (for Karpinskiy). 3. Leningradskoye vysshoye morekhodnoye uchilishche (for Yersman and Pevnitskiy).
(Radio--Interference) (Liutov, S.A.)

RUBINSHTEYN, Yakov Moiseyevich [deceased]; STARIK, M.Ye., dotsent, retsenzent; BORODIN, N.I., dotsent, kand.tekhn.nauk, red.; FERSMAN, A.A., dotsent, kand.tekhn.nauk, red.; CHERNYAK, S.I., dotsent, kand.tekhn. nauk, red.; DENISOV, K.N., red.izd-va; DROZHZHINA, L.P., tekhn.red.

[Radio wave propagation and antenna feeding devices] Rasprostranenie radiovoln i antenno-fidernye ustroistva. Leningrad, Izd-vo "Morskoi transport," 1960. 387 p. (MIRA 13:7)
(Radio waves) (Antennas (Electronics))

4196

S/194/62/000/009/082/100
D413/D308

AUTHOR: Fersman, A. A.

TITLE: Interference eliminator units

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 9, 1962, abstract 9-7-138 s(Byul. tekh.-ekon. inform. M-vo morsk. flota SSSR, no. 3(42), 1961, 82-86)

TEXT: The interference eliminator units for the marine communications receivers 'Volna' and AC-2 (AS-2), designed to attenuate pulsed interference, can be connected in without any modification or retuning of the receivers. Pulsed interference is suppressed in the units by limiters according to the signal level in an IF amplifier. [Abstracter's note: Complete translation.]

Card 1/1

ACCESSION NR: AP4041022 S/0120/64/000/003/0081/0084

AUTHOR: Fersman, A. A.; Krivetskiy, A. A.

TITLE: Analyzer of the probability density of irregular phase difference

SOURCE: Pribory* i tekhnika eksperimenta, no. 3, 1964, 81-84

TOPIC TAGS: phase difference analyzer, phase difference probability density

ABSTRACT: An amplitude-independent method for measuring the probability density of the irregular phase difference between a random-phase voltage and a reference voltage of the same frequency is suggested. The method is based on a special device (which includes a ferrite-core nonlinear coil) for isolating a zero phase in the reference and test channels. A block diagram (see Enclosure 1) of the instrument and a simplified connection diagram of the zero-phase isolator are supplied. Orig. art. has: 3 figures and 7 formulas.

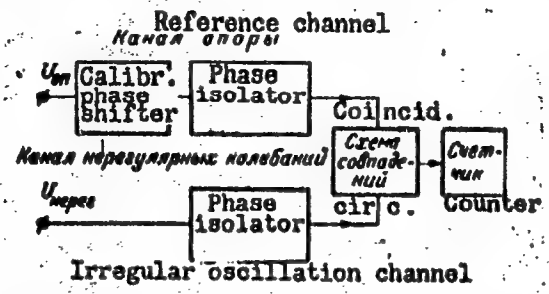
ASSOCIATION: none

SUBMITTED: 05Jun63 ENCL: 01

SUB CODE: EC NO REF SOV: 001 OTHER: 000

Card 1/2

ACCESSION NR: AP4041022 ENCLOSURE: 1



Block diagram of an analyzer of the probability density of irregular phase difference

Card 2/2

FERSMAN, A.Ye., akademik

Lomonosov in the history of Russian science. Priroda 50 no.11:14-20 N '61. (MIRA 14:10)
(Lomonosov, Mikhail Vasil'evich, 1711-1765)

FERSMAN, A.Ye., akademik

Time...atom...thought... (excerpts from an unfinished book).
Tekh.mol. 31 no.2:2 '63. (MIRA 16:6)
(Atoms)

FERSMAN, Aleksandr Yevgen'yevich, akademik; MAMUROVSKIY, A.A. [deceased], otv. red.; BELOV, N.V., akademik, red.; VINOGRADOV, A.P., akademik, red.; SHCHERBAKOV, D.I., akademik, red.; SAUKOV, A.A., red.; SHCHERBINA, V.V., doktor geol.-min. nauk, red.; POPOVA, T.S., red. izd-va; POPOVA, S.T., red.; PRUSAKOVA, T.A., tekhn. red.; GUSEVA, A.G., tekhn. red.

[Selected works] Izbrannye trudy. Moskva, Izd-vo Akad. nauk SSSR. Vol.7. 1962. 592 p. (MIRA 15:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Saukov).
2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Mamurovskiy).

(Precious stones)

FERSMAN, A.Ye., akademik

Konstantin Eduardovich TSiolkovskii (to be continued). Tekh. mol. 31 no.3:8-9 '63. (MIRA 16:6)

(TSiolkovskii, Konstantin Eduardovich, 1857-1935)

FERSMAN, A.Ye., akademik

Konstantin Eduardovich Tsiolkovskii (conclusion). Tekh.mol. 31 no.4:24-25 '63. (MIRA 16:6)
(Tsiolkovskii, Konstantin Eduardovich, 1857-1935)

FERSMAN, A.Ye.; FERSMAN, Ye.M.

Tietta; from the past of the Khibiny Mountains. Priroda 54 no.6: 96-103 Je '65. (MIRA 18:6)

PERSHAN, B. A.

PERSHAN, B. A. - "Experimental investigation of the laws of distribution of the signal and the calculation of nonlinear distortions along the radio-broadcast beam." Leningrad, 1955. Min Communications USSR. Leningrad Electrical Engineering Inst of Communications imeni Professor M. A. Bonch-Bruyevich. (Dissertations for degree of Candidate of Technical Sciences.)

SO: Knizhnaya letopis', No 48. 26 November 1955. Moscow.

FERSMAN, B.A.

AUTHOR PETRZHAK, K.A., BAK, M.A., FERSMAN, B.A., PA - 2718

TITLE Determination of the Absolute Number of Neutrons emitted by a Radium-Beryllium Source by Comparison with a Photoneutron-Deuterium Source. (Opredeleniye absolutnogo chisla neytronov, ispuskayemykh radiy-beriliyevym istochnikom, sravneniyem s fotoneytronnym deyteriyevym istochnikom., Russian)

PERIODICAL Atomnaia Energiia, 1957, Vol 2, Nr 4, pp 319-326 (U.S.S.R.)

Received 5/1957 Reviewed 6/1957

ABSTRACT The authors develop a comparatively simple method realizable in any laboratory for the gauging of neutron sources. For the purpose of determining this absolute neutron number two problems have to be solved. 1) Determination of the absolute number of photoprotons produced in a given volume with gaseous deuterium at a known pressure and at a known temperature. The gas is then replaced by heavy water and by this a so-called primary neutronstandard is produced which emits a certain number of neutrons. 2) By comparison with this primary standard the absolute numberof neutrons is obtained which is emitted within the time unit of the Ra-Be-source. Experimental arrangement is discussed on the basis of a drawing. The ionization chamber consists of a nickel hollow sphere and a hollow brass finger serves as collecting electrode. Recording of the photoprotons is given step by step. The relative neuintensities of the γ-D-source and of theRa-α-Be source were determined by comparaison of the integral spatial distributions of slow neutrons in water. The neutrons were howed down by water which is con-

Card 1/2

Determination of the Absolute Number of Neutrons emitted by a Radium-Beryllium Source by Comparison with a Photo-neutron-Deuterium Source. PA - 2718

tained in a ~1 m high cylindrical vessel.
Results. The authors carried out 6 measuring series for the determination of the absolute number of the photoprotons produced in the chamber under the influence exercised by γ-rays. The intensities of the Ra-α-Be-source computed by means of these measuring values are shown together in a table. The absolute number of the neutrons emitted from the radium-beryllium source investigated hereamounts to $(9,4^{+}\ 0,6).10^{5}$. For the purpose of improving accuracy the development of this method is being continued.
(7 ill.and 1 table)

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Card 2/2

FERSMAN, B.A.

46-3-9/15

AUTHOR: Fersman, B.A.

TITLE: An Experimental Study of Statistical Properties of Broadcast Musical and Speech Signals (Eksperimental'noye issledovaniye statisticheskikh svoystv muzykal'nykh i rechevykh radioveshchatel'nykh signalov)

PERIODICAL: Akusticheskiy Zhurnal, 1957, Vol.III, Nr 3, pp.274-281 (USSR)

ABSTRACT: Methods of mathematical statistics have recently been applied in investigations of various processes which occur in radiotechnical devices. In particular, in the case of broadcasting, there is a tendency to use fundamentally new methods of studying nonlinear distortions, based on the fact that the broadcast radio signal can be looked upon as a random stationary process (Refs.1-4). When carrying out such studies it is necessary to know the distribution function of the probability density for instantaneous values of the signal. At present such distribution functions for real signals are not very well known. It is still unknown whether a radio broadcast signal has a stable distribution and, if so, what is the minimum duration of the signal for

Card 1/4

An Experimental Study of Statistical Properties of Broadcast Musical and Speech Signals.

which the distribution can be considered stable. The elucidation of these two questions is the object of the present work. To study the distribution function of probability density of instantaneous values of radio broadcast signals, an apparatus was developed which is shown in Fig.1. The principle of the apparatus is as follows: a blocking generator, 1, produces pulses of constant height and a definite repetition frequency. These pulses then enter the modulator, 2, and are mixed with the input signal, 3, which is being investigated. The signal, 3, is first passed through the amplifier, 4, whose amplification can be varied. The output of the modulator will consist of pulses with the original repetition frequency but having an envelope corresponding to the form of the input signal, 3. In order to obtain a sufficiently good resolution the modulated signal is amplified and is examined by a differential discriminator, 5. The differential discriminator consists of 2 limiters, 6 and 7, and a cascade of anticoincidences, 8. The limiters 6 and 7 differ from each other only in that their limiting thresholds differ by a constant amount. As a result of this, at the output of the differential discrimina-

An Experimental Study of Statistical Properties of Broadcast Musical and Speech Signals.

tor one obtains the pulses only if the magnitude of the input pulse is larger than the threshold of the first limiter but less than that of the second. This "window" of the discriminator can be moved along the voltage scale at constant window width. The pulses obtained from the discriminator are recorded by a counting unit, 9. Using this apparatus, the statistical properties of real radio broadcast signals were studied. Experiments were carried out using tape recorders so that a given programme could be repeated the required number of times. The distribution curves were taken for a symphonic orchestra, a variety orchestra, pianoforte and speech. The following conclusions were reached: the distribution of instantaneous values of a radio broadcast signal does not obey the normal distribution law but is well represented by a Cauchy distribution. A radio broadcast musical signal has a distribution of the form $\exp(-|x|/x_o)$ where the parameter x_o depends on the "type" of music. A radio broadcast signal of more than 2 minutes' duration has a stable distribution. For engineering purposes where all

46-3-9/15

An Experimental Study of Statistical Properties of Broadcast Musical and Speech Signals.

the possible types of signals have to be considered it is convenient to use a "mean" distribution which can be looked upon as normal. The work was carried out under the direction of A.V. Rimsky-Korsakov. There are 9 figures, and 8 references, of which 1 is English and the rest are Russian.

ASSOCIATION: Leningrad Electrotechnical Institute of Communication im.M.A.Bonch-Bruyevich (Leningradskiy elektrotekhnicheskiy institut svyazi im.M.A.Bonch-Bruyevicha)

SUBMITTED: December 20, 1956.

AVAILABLE: Library of Congress.

Card 4/4

FERSMAN, B.A.; PAK, I.N.; ZAYEZDNIY, A.M., red.; GAL'CHINSKAYA, V.V., tekhn. red.

[Tables and formulas of sums of trigonometric series of the type $\sum_{n=1}^{\infty} \frac{I_n(r)}{n^2+a^2} \cos nx$ and $\sum_{n=1}^{\infty} \frac{nI_n(r)}{n^2+a^2} \sin nx$ textbook]Tablitsy i formuly summ trigonometricheskikh riadov vidov $\sum_{n=1}^{\infty} \frac{I_n(r)}{n^2+a^2} \cos nx$ i $\sum_{n=1}^{\infty} \frac{nI(r)}{n^2+a^2} \sin nx$; uchebnoe posobie. Pod red. A.M.Zaezdnogo. Leningrad, 1961. 47 p. (MIRA 15:12)

1. Leningrad. Elektrotekhnicheskiy institut svyazi.
(Fourier series) (Mathematics—Tables, etc.)

ZAYEZDNYY, A.M.; FERSMAN, B.A., retsenzent; KHANOVICH, I.G., red.

[Principles of statistical radio engineering; a manual (chapters 3-6)] Osnovy statisticheskoi radiotekhniki; uchebnoe posobie (par.3-6). Leningrad, Leningr. elektrotekhn. in-t sviazi, 1964. 104 p. (MIRA 18:8)

FERSMAN, A.Ye.; FERSMAN, Ye.M.

Tietta; from the past of the Khibiny Mountains. Priroda 54 no.6: 96-103 Je '65. (MIRA 18:6)

FERST, V.

Pneumatic controllers of temperature for TS and TN air conditioners. p. 76.

ZDRAVOTNI TECHNIKA A VZDUCHOTECHNIKA. (Ceskoslovenska akademie ved. Ceskoslovenska vedecka technika spolecnost pro zdravotni techniku a vzduchotechniku) Praha, Czechoslovakia. Vol 2, no. 2, 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, no. 7, July 1959. Uncl.

L 42985-66 EWP(m)/EWT(1)

ACC NR: AP6012155 SOURCE CODE: UR/0413/66/000/007/0072/0072

INVENTOR: Festenshteyn, M. S.; Krysin, Yu. P.; Zagarov, V. V.

53
B

ORG: none

TITLE: Device for testing samples of materials for thermal shock. Class 42, No. 180388

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 72-73

TOPIC TAGS: thermal fatigue, fatigue test, combustion chamber, material testing

ABSTRACT: An Author Certificate has been issued describing a device for testing samples of materials for thermal shock in gas flow. The device contains a combustion chamber with a programming element for controlling the supply of fuel to the combustion chamber. To determine the resistivity of samples to thermal fatigue due to thermal overload alternating with time, the actuating mechanism of the programming element is designed in the shape of a slide valve arrangement with a camshaft-type electromechanical gear (see Fig. 1). Orig. art. has: 1 figure. [Translation] [NT]

Card 1/2 UDC: 620.178.38-529

L 42985-66
ACC NR: AP6012155

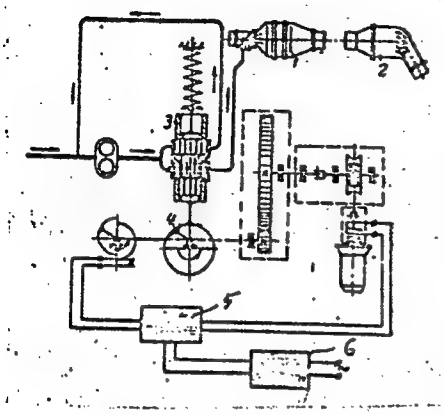


Fig. 1. Device for testing samples of materials for thermal shock. 1—Combustion chamber; 2—blow-through mechanism; 3—slide valve arrangement; 4—camshaft gear; 5—time relay; 6—power-supply unit.

SUB CODE: 13/ SUBM DATE: 03Jul64/

Card 2/2 hs

FERSTER

POLAND/Microbiology - Microorganisms Pathogenic to Humans and Animals. F-5

Abs Jour : Ref Zhur - Biol., No 3, 1958, 99[illegible]

Author : Lyakhovich, Romanovskiy, Ferster

Inst : -

Title : Investigation of Staphylococci Carrying.

Orig Pub : Med. doswiad. i mikrobiol., 1956, 8, No 4, 463-472

Abstract : 1007 children aged up to 14 years were investigated regarding carrying of staphylococci. In 516 children (51.24%) a culture of pyogenic coagulase positive staphylococcus was isolated. In 181 (35.09%) children staphylococci were found in the pharynx and nose, in 231 (44.76%) in the nose only, and in 104 (20.15%) in the pharynx only. In 232 (44.96%) of the 516 carriers penicillin-resistant staphylococci strains were isolated. Of 685 coagulase positive strains, 397 (58%) were sensitive to penicillin and 211 (30.8%) were resistant to

Card 1/2

POLAND/Microbiology - Microorganisms Pathogenic to Humans and Animals. F-5

Abs Jour : Ref Zhur - Biol., No 3, 1958, 9936

streptomycin. Carrying of pyogenic staphylococcus possessing antagonistic properties comprised 7.8%. Some antagonistic strains were resistant to penicillin.

Card 2/2

FERSTER, N.P.

Characteristics of tactile-motor orientation [with summary in English]. Vop.psikhol. 4 no.4:53-57 Jl-Ag '58. (MIRA 11:11)

1. Institut psikhologii Akademii pedagogicheskikh nauk RSFSR.
(Orientation)

KUNAYEV, A.M.; FERT, M.I.

Cathodic polarization during the electrolysis of sulfuric acid solutions of vanadium and zinc. Trudy Inst. met. i obog. AN Kazakh. SSR 14:53-57 '65.

Investigating cathodic polarization during the electrolysis of alkaline solutions of vanadium and zinc. Ibid.:58-61
(MIRA 18:10)

DORYWALSKI, Jozef; FERTALA, Kazimierz

The influence of some methods of sowing corn on yields. Rocz nauk roln rosl 80 no.3:495-512 '60. (EEAI 9:10)

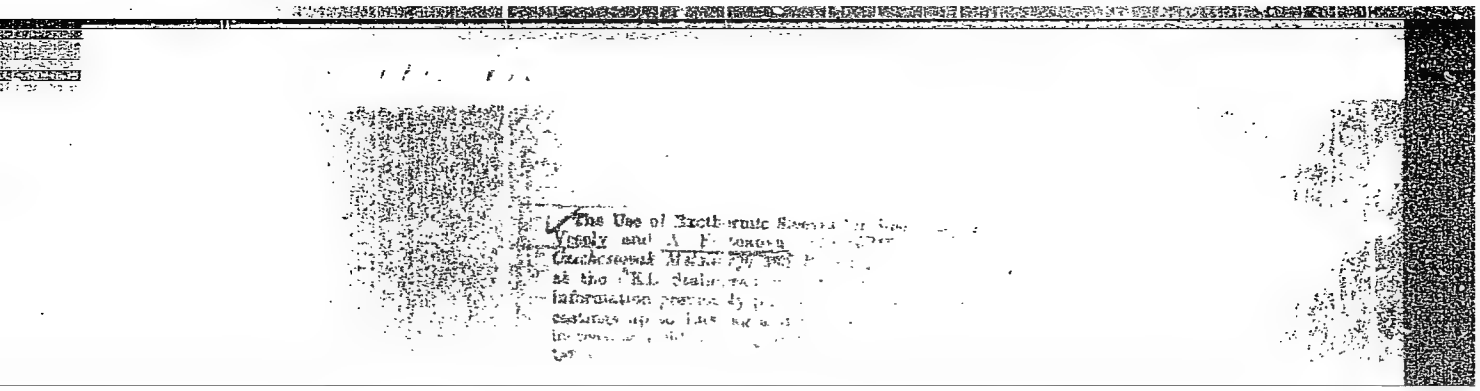
1. Katedra Ogolnej Uprawy Roli i Roslin Wyzszej Szkoly Rolniczej w Poznaniu i Instytut Uprawy, Nawozenia i Gleboznawstwa.
(Poland--Corn (Maize))

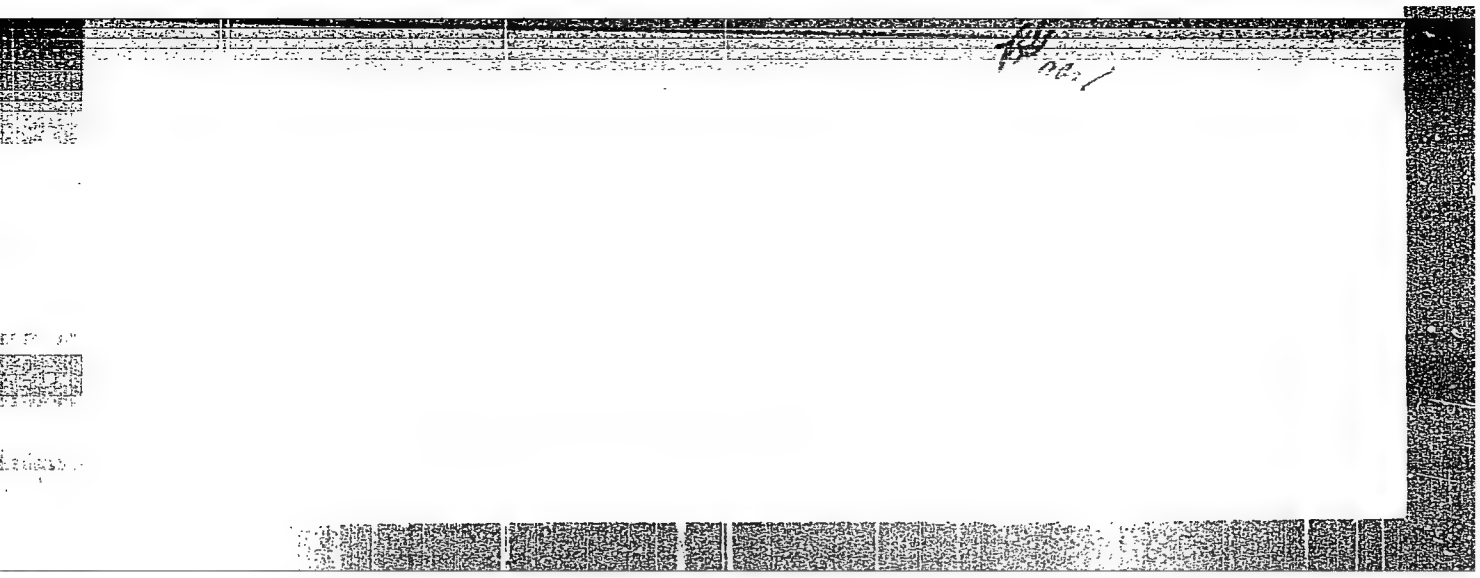
ČERTEK, Otakar; MANYCH, Jiri

Rubrophytosis (T. purpureum Bang 1910). Cesk. derm. 36 no.7:469-474 '61.

1. Dermatovenerologicka klinika LFHKU, prednosta prof. MUDr. J. Konopik, Dr. Sc. Laborator pro lekarskou mykologii katedry epidemiologie LFHKU, vedouci katedry prof. MUDr. K. Raska, Dr. Sc.

(RINGWORM)





FERTEL', G.Ya.

Boring apparatus for rotary boring of water wells. Vod.i san.tekh. no.1:13-15 Ja '57. (MLRA 10:3)
(Boring)

Fertel, G.Ya.

AUTHOR: Fertel', G.Ya., Engineer 99-58-3-3/12

TITLE: Practical Methods for Removing Clay Obstructions in the Water-Bearing Layers of Artesian Wells (Prakticheskiye metody razglinizatsii vodonosnykh plastov v artezianskik skvazhinakh)

PERIODICAL: Gidrotekhnika i Melioratsiya, 1958, # 3, pp 10-17 (USSR)

ABSTRACT: The building of water-supply systems, especially in highly-mechanized agricultural organizations, requires special attention by persons in charge of the artesian borings. All over the country, hundreds of inoperative wells are found, because the authorities in charge did not observe basic precautions during boring operations. Experienced personnel have found, that in rotory boring, when all the conditions and the method of removal of clay obstructions in the water-bearing layers are observed, the results are always positive. Different kinds of drilling fluid must be used in different cases. The degree of viscosity of the drilling fluid also is important. A fluid with a low viscosity penetrates deeper into the layer and forms a crust that is difficult to remove, while a fluid with a high viscosity penetrates only slightly, and the crust can be easily removed. Different methods of removing clay

Card 1/2

99-58-3-3/12

Practical Methods for Removing Clay Obstructions in the Water-bearing Layers of Artesian Bore Holes.

obstructions and detailed information on each case is given. There are 10 figures.

AVAILABLE: Library of Congress

Card 2/2

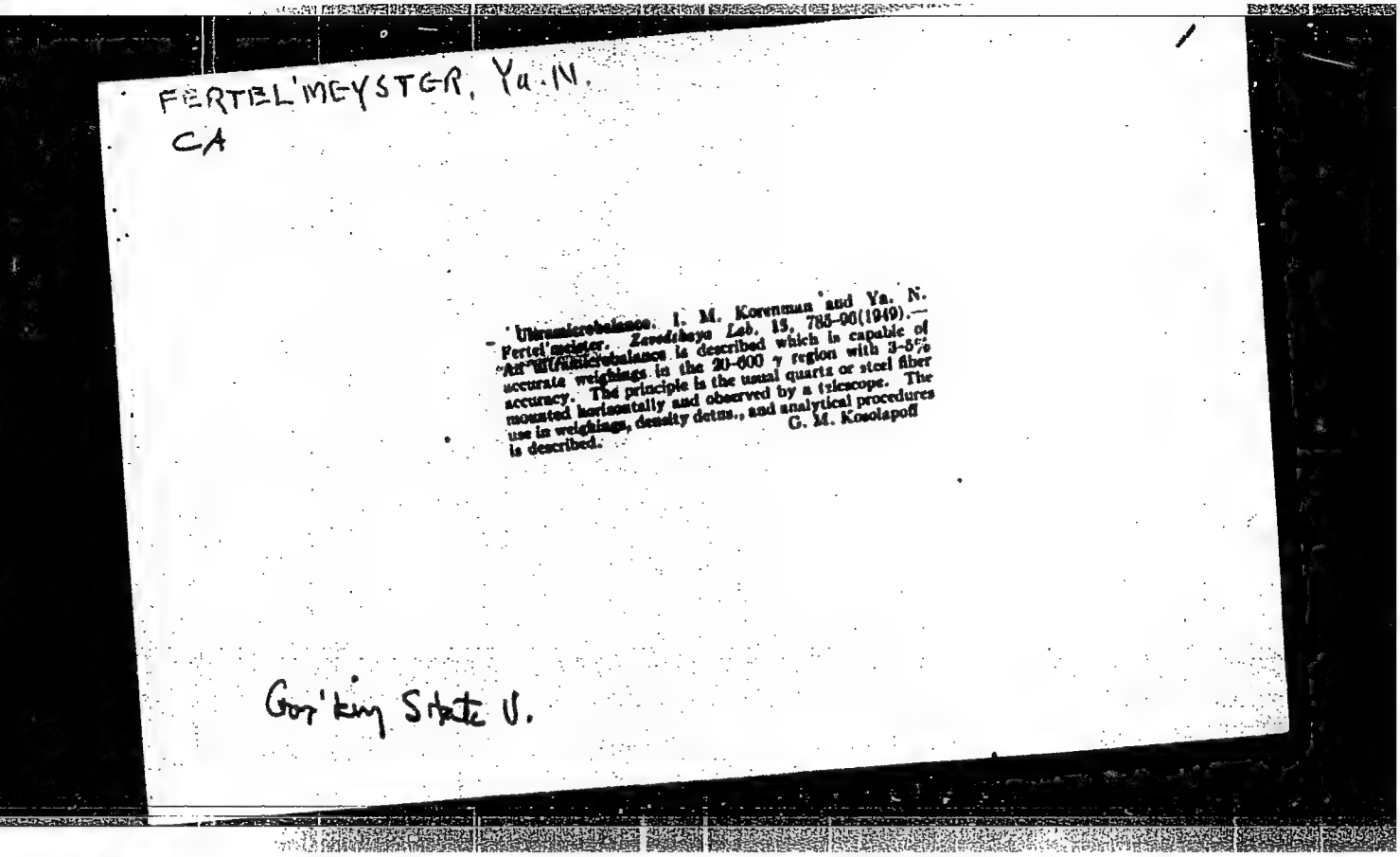
FERTEL', G.Ya.

Construction of water wells by the method of rotary boring should be improved. Vod. i san. tekh. no.8:30-31 Ag '58.
(Boring) (Wells) (MIRA 11:9)

FERTEL'MEYSTER, Ya.N.; OVSIYENKO, P.I.; ZENINA, M.N.

Quality of grease for hoisting cables. Trudy MakNII 12: Vop. gor. elektromekh. no.4:367-373 '61. (MIRA 16:6)

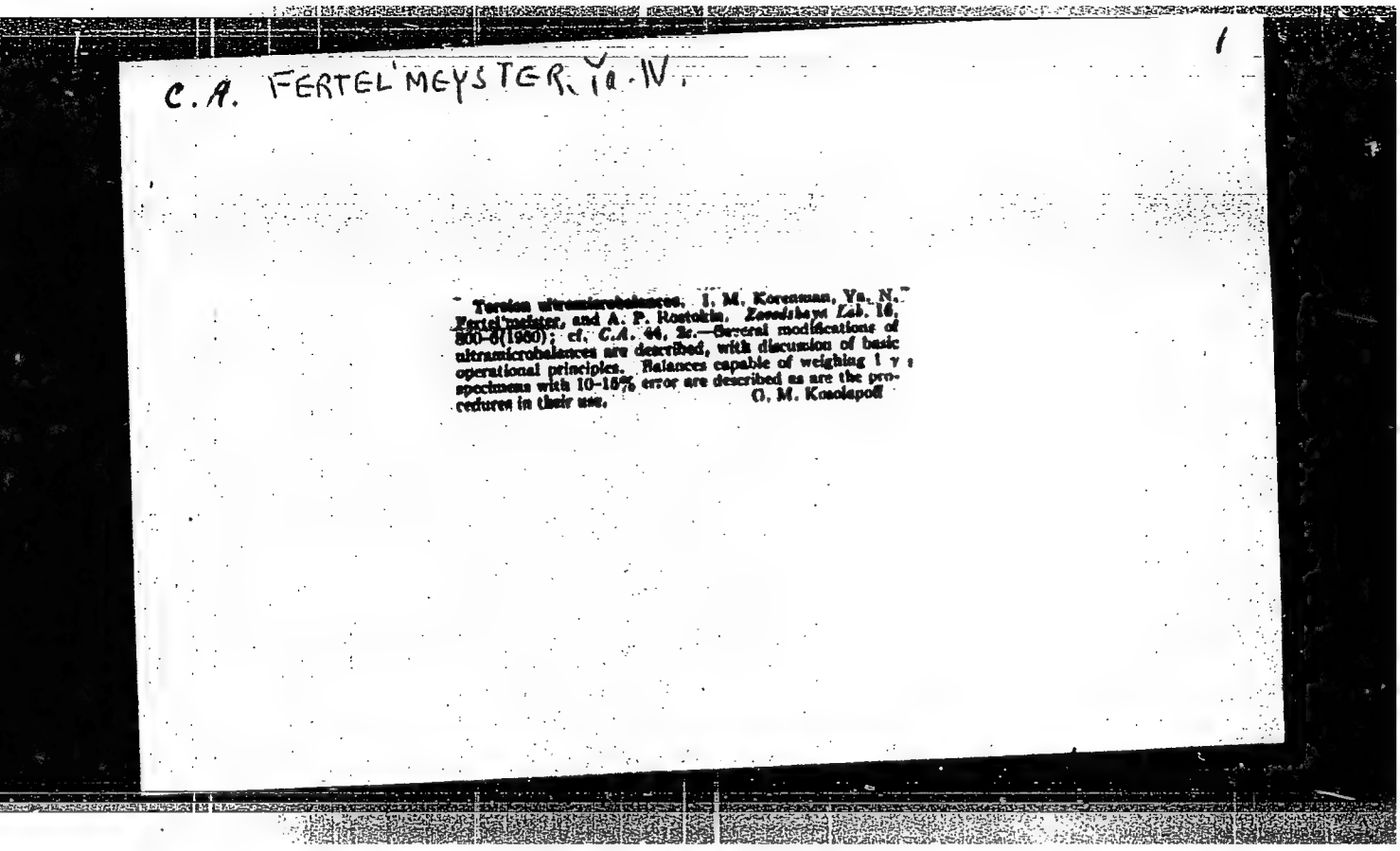
(Wire rope)
(Lubrication and lubricants)



FERTEL'MEYSTER, Ya. N.
CA

Ultramicrobalance. I. M. Korenman and Ya. N. Fertel'meister. *Zavodskaya Lab.* 15, 788-90(1949).—An ultramicrobalance is described which is capable of accurate weighings in the 20-000 γ region with 3-5% accuracy. The principle is the usual quartz or steel fiber mounted horizontally and observed by a telescope. The use in weighings, density detns., and analytical procedures is described.
G. M. Kosolapoff

Gor'kiy State U.



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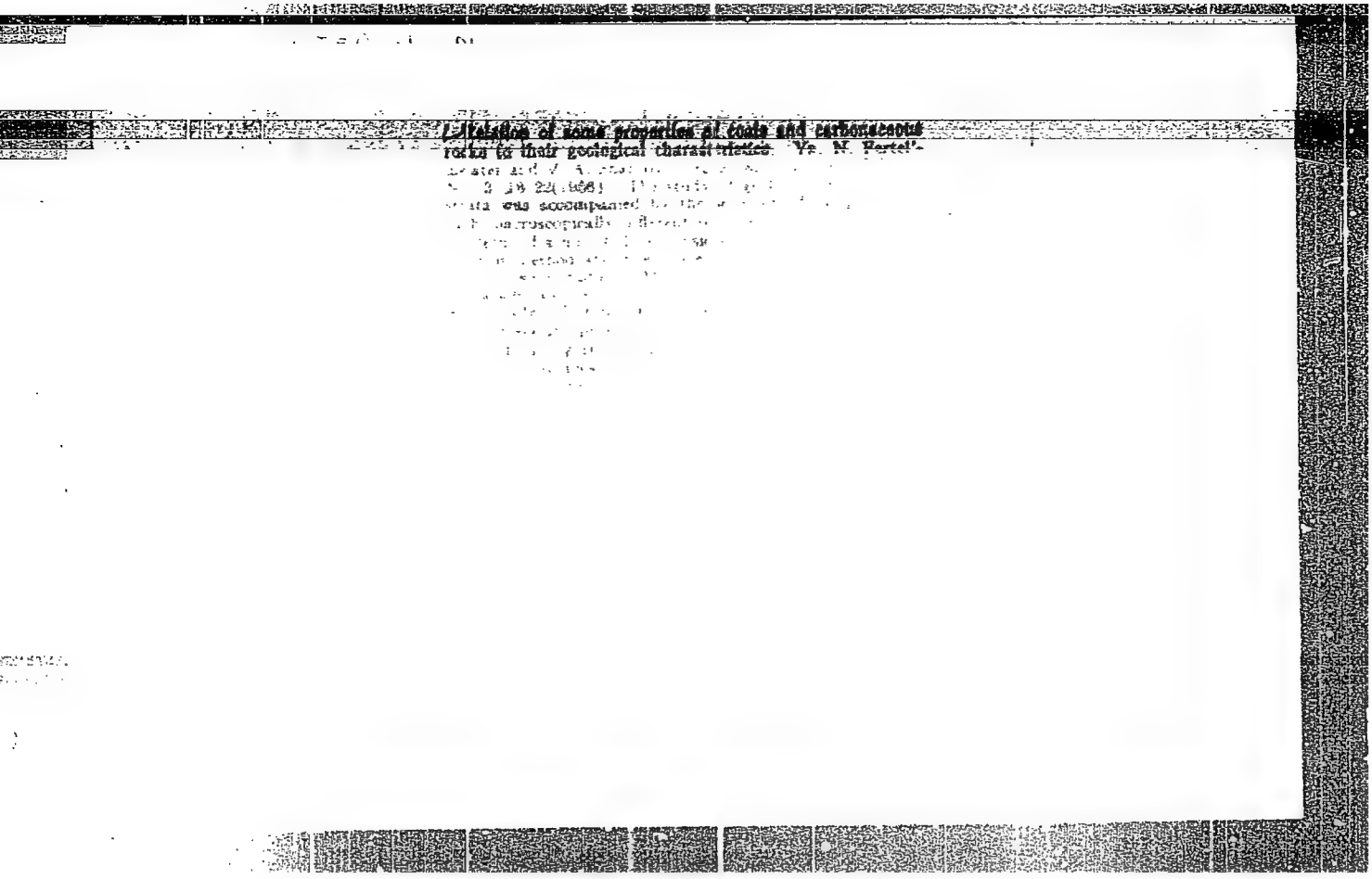
C.A. FERTEL'MEYSTER, Ya. N.

Torsion ultramicrobalances. I. M. Korenman, Ya. N. Fertel'meister, and A. P. Rostokin. *Zavodskaya Lab.* 16, 800–3(1950); cf. *C.A.* 44, 2c.—Several modifications of ultramicrobalances are described, with discussion of basic operational principles. Balances capable of weighing 1 γ specimens with 10–15% error are described as are the procedures in their use. O. M. Kosolapoff

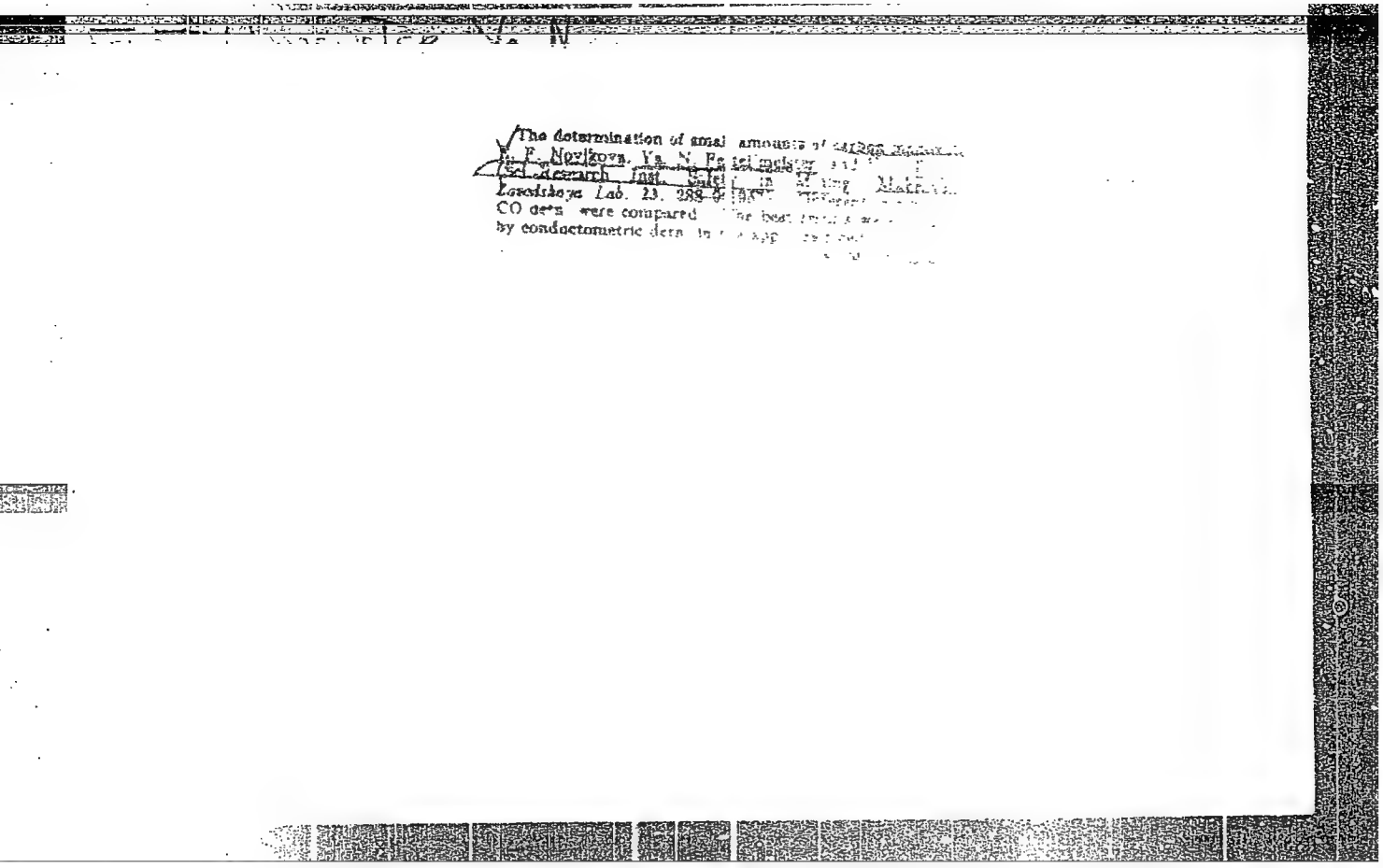
FERTEL'MEYSTER, Ya.N.; RABICHENKO, I.L.; DUN, D.L.

Radiographic determination of quartz in rock and coal powder. Zav. lab. 21 no.6:702-705 '55. (MLRA 8:9)

1. Makeyevskiy nauchno-issledovatel'skiy institut po bezopasnosti rabot v gornoy promyshlennosti
(Quartz) (Dust--Analysis)



Relation of some properties of coals and carbonaceous rocks to their geological characteristics. Ye. N. Portel'-



The determination of small amounts of [illegible]
V. F. Novikova, Ya. N. Pa[illegible]
[illegible] Research Inst. [illegible]
Zavodskaya Lab. 23, 288-9 [illegible]
CO dets were compared [illegible]
by conductometric dets. [illegible]

BEKIRBAYEV, D.B.; GRODEL', G.S.; GUL'SHIN, P.A.; KLEPIKOVA, M.S.; PETRUKHIN, P.M.; POLYANSKIY, I.P.; RASSOLOV, N.I.; TARASOVA, A.A.; FERTEL'MEYSTER, Ya.N.; CHERVINSKIY, M.S.; SHANOVSKAYA, S.S.; KLIMANOV, A.D., otv.red.; ZHUKOV, V.V., red.izd-va; PROZOROVSKAYA, V.L., tekhn.red.; KONDRAT'YEVA, M.A., tekhn.red.

[Control of coal and rock dust in mines] Bor'ba s ugol'noi i porodnoi pyl'iu v shakhtakh. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1959. 499 p. (MIRA 13:3)
(Mine dusts)

FERTEL'MEYSTER, Ya.N., kand. khim. nauk; KRIGMAN, F.Ye., inzh.; KRIVITSKIY, M.D.; VARAKIN, A.M.

Using gamma rays to measure the thickness of the settled layer of coal dust. Ugol' 34 no.1:48-50 Ja '59. (MIRA 12:1)
(Mine dusts) (Coal mines and mining--Safety measures)
(Gamma rays--Industrial applications)

S/044/62/000/011/017/064
A060/A000

AUTHOR: Pertig, Margareta

TITLE: On the behavior of integrals of linear differential equations with constant coefficients which are functions of a parameter

PERIODICAL: Referativnyy zhurnal, Matematika, no. 11, 1962, 42, abstract 11B178 (Studia Univ. Babeş-Bolyai. Math.-phys., 1960, no. 1, 121 - 130; Rumanian; summaries in Russian, French)

TEXT: The author considers the linear equation with constant coefficients

$$\varepsilon y^{(n)} + \lambda_1(\varepsilon) y^{(n-1)} + \ldots + \lambda_n(\varepsilon) y = f(x), \qquad (1)$$

where ε is a small parameter. The solution $y(x, \varepsilon)$ of that equation is investigated, which satisfies the initial condition $y^{(i)}(0, \varepsilon) = B_i(\varepsilon)$ $(i = 0, \ldots, n-1)$. Let

$$\lambda_1(0) = 0, \quad \lambda_2(0) \neq 0, \quad \lim_{\varepsilon \to 0} \frac{\lambda_1(\varepsilon)}{\varepsilon^q} = a \ (q > 0); \quad \lim_{\varepsilon \to 0} B_i(\varepsilon) \neq y_0^{(i)},$$

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$(i = 0, 1, \ldots, n-3)$, $\lim\limits_{\varepsilon\to 0} B_{n-2}(\varepsilon) = B^0_{n-2}$, $\lim\limits_{\varepsilon\to 0} B_{n-1}(\varepsilon) = B^0_{n-1}$.

It is demonstrated that, if $q \neq \frac{1}{2}$, $a>0$ and $\lambda_2(0) > 0$, then $\lim\limits_{\varepsilon\to 0} y(x, \varepsilon) = \bar{y}(x)$, where $\bar{y}(x)$ is defined by the degenerate equation obtained from (1), if in it one formally sets $\varepsilon = 0$, with the initial condition $\bar{y}^{(i)}(0) = y_0^{(i)}$ $(i = 0, \ldots, n-3)$. If $q = \frac{1}{2}$ then the proposition holds in the presence of the additional condition $\lambda_2(0) > \frac{a^2}{4}$. If $q \geqslant 1$ then the propagation remains valid also for $a < 0$.

A.B. Vasil'yeva

[Abstracter's note: Complete translation]

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S/044/62/000/004/031/099
C111/C444

AUTHOR: Fertig, M.

TITLE: On the behavior of the solutions of a system of differential equations with a small parameter

PERIODICAL: Referativnyy zhurnal, Matematika, no. 4, 1962, 40, abstract 4B177. (Mathematika (RPR), 1960, 2, no, 2, 217 - 252)

TEXT: Considered is the system with the small parameter

$$\varepsilon\dot{x} = X(x, u) + \varepsilon V(x, u, \varepsilon), \quad \dot{u} = U(x, u, \varepsilon) \qquad (1)$$

(x, u being vectors). Let

$$H_i(x, u) = h_i (i = 1, \ldots, n - 1)$$

be n - 1 independent first integrals for the system $\dot{x} = X(x, u)$ (where u is considered a constant parameter), the solutions of which are $x = \bar{x}(\tau + C, h_1, \ldots, h_{n-1}, u)$ (C being an arbitrary constant).

It is supposed that there exists a system of periodic functions $y(\tau, h_1, \ldots, h_{n-1}, u)$ such that

Card 1/2

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C111/C444

On the behavior of the solutions ...

$$\lim_{\tau \to \infty} [y(\tau, h_i, u) - \bar{x}(\tau, h_i, u)] = 0.$$

It is proved that then for $\varepsilon \to 0$ for the solutions $x(t, \varepsilon)$, $y(t, \varepsilon)$ of the system (1) holds

$$H_i(x(t, \varepsilon), u(t, \varepsilon)) \to \bar{h}_i(t), \quad u(t, \varepsilon) \to \bar{u}(t),$$

where $\bar{h}_i$, $\bar{u}_i$ are solutions of the system $\dot{\bar{h}}_i = H_i(\bar{h}, \bar{u})$, $\dot{\bar{u}} = U(\bar{h}, \bar{u})$, the right hands of which are obtained by averaging with respect to the time the functions

$$\sum \frac{\partial H_i}{\partial x_j} V_j + \sum \frac{\partial H_i}{\partial u_j} U_j \text{ and } U,$$

in the arguments of which $y(\tau, \bar{h}, \bar{u})$ are substituted.

[Abstracter's note: Complete translation.]

Card 2/2

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S/044/62/000/004/034/099
C111/C333

AUTHOR: Fertig Frenkel, Margareta

TITLE: The asymptotic behavior of the integrals of a differential equation of hydrodynamics of viscous fluids

PERIODICAL: Referativnyy zhurnal, Matematika, no. 4, 1962, 43, abstract 4B186. ("Comun. Acad., RPR", 1961, 11, no. 6, 631-637)

TEXT: The differential equation

$$\varepsilon \frac{dy}{dx} = \frac{1}{h^2(x)} \left(1 - \frac{C(\varepsilon)}{\frac{1}{y^{\gamma}} h(x)} \right), \quad \varepsilon > 0, \quad y(0,\varepsilon) = y_0$$

is considered. It is proved: If $\lim_{\varepsilon \to 0} C(\varepsilon) = C_0$, where $0 < C_0 < y_0^{\frac{1}{\gamma}} h(0)$, then $\lim_{\varepsilon \to 0} y(x,\varepsilon) = +\infty$. If, however, $C_0 > y_0^{\frac{1}{\gamma}} h(0)$, then there

Card 1/2

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C111/C333

The asymptotic behavior of the ...

exists no interval $(0,x')$, $x'>0$ independent of ε, on which $y(x,\varepsilon)>0$ for every ε.

[Abstracter's note: Complete translation.]

Card 2/2

FERTIG, Stanislaw

Growth patterns of bacilli cultivated on chicken egg yolk.
Arch. immun. ter. dosw. 8 no.1:77-100 1960.

1. Katedra Mikrobiologii Wydzialu Weterynaryjnego, Wyzszej Szkoly Rolniczej we Wroclawiu, Kierownik: Prof. dr A. Skurski.
(MYCOBACTERIUM TUBERCULOSIS culture)

FERTIG, Stanislaw

Area irrigated with sewage. Its hygienic and sanitary evaluation. II. Examination of rodents from fields irrigated with sewage for the presence of tubercle bacilli. Acta microbiol. pol. 10 no.4: 433-437 '61.

1. Z Katedry Mikrobiologii Sydzialu Weterynaryjnego Wyzszej Szkoly Rolniczej we Wroclawiu. Acta microbiol. pol. 10 no.4:433-437 '61.
(SEWAGE microbiol) (RODENTS microbiol)
(MYCOBACTERIUM TUBERCULOSIS)

FERTIG, S.

(31) (57)

Warsaw, Medycyna Weterynaryjna, Vol XVIII, No 1, Jan 62 (continued)

9. "Use of Dextrocycin in Injections Against Swine Pasteurellosis," J. ZAJACZKOWSKI and J. CHMIELEWSKI, of Wojewodztwo Research Office for Veterinary Hygiene (Wojewodzki Zaklad Higieny Wet.) in Gorzow, J. CHMIELEWSKI chief (kierownik), and B. BARTOSZ, MD Vet. of WPRW in Zielona Gora; pp 25-27.

10. "Toxoplasma Antibodies in Cattle in the Katowice Wojewodztwo," J. GAJUSZKA and D. SIERAK, of the Wojewodztwo Research Office for Veterinary Hygiene (Wojewodzki Zaklad Higieny Weterynaryjnej) in Katowice, Prof. Dr. J. Szaflarski, chief (kierownik) (English summary); pp 27-28.

11. "Studies on the Carrier State of Salmonella and Shigella Strains," (to be published in full in Acta Microbiologica Polonica) L. LOZIKSKI of the Wojewodztwo Research Office for Veterinary Hygiene (Wojewodzki Zaklad Higieny Wet.) in Wroclaw, Dr. L. LOZINSKI, chief (kierownik) (English summary); pp 28-29.

12. " A Case of Listeriosis in Chinchilla and an Attempt to Treat It," J. SZEFFER, of the Wojewodztwo Research Office for Veterinary Hygiene (Wojewodzki Zaklad Higieny Wet.) in Katowice, Prof. Dr. J. Szaflarski, chief (kierownik); pp 29-31.

13. "Tuberculosis of the Mammary Gland in the Cow Caused by Mycobacterium Tuberculosis, Avian Type," A. SZEZA, S. FERTIG, and S. JASTRZEBSKA, of Chair of Pregnancy (Katedra Poloznictwa) of the Veterinary Department of the Higher School of Agriculture (WSR) in Wroclaw, Prof. Dr. Alfred SENZE, chief (kierownik), and Chair of Microbiology of the Veterinary Dept. of the WSR in Wroclaw, Prof. Dr. Adam SKURSKI, chief (kierownik); pp 31-32.

13. "Trichinellosis in Pigs and Wild Boars in the Wroclaw Wojewodztwo," Alojzy RAMISZ and Stanislaw SWIETH of Wroclaw; p 33.

14. "Trichinellosis in Pigs in the Myslowice Abbatoir Between 1945 and 1960," Teodor PUSTOWKA of Myslowice; pp 33-34.

15. "Studies on the Preservation of Bovine Semen. VI. Attempts at Improving the Conditions of Preservation at Room Temperature," L. JASKOWSKI, D. SZCZAWINSKA-KLOSOWSKA and S. KOKIOKI, of Research Office for the Physiology of Reproduction and Lactation (Zaklad Rozrodu i Laktacji) of the Institute of Animal Physiology and Nutrition (Instytut Fizjologii i Zywienia Zwierzat), and of Research Office for Insemination and Combating Sterility (Zaklad Inseminacji i Zwalczania Bezplodnosci) of the Veterinary Institute (Instytut...

— 2/3 —

FERTIG, Stanislaw; SIELICKA, Stanislawa

Phagocytosis of variants of Pasteurella pseudotuberculosis.
Acta microbiol. pol. 12 no.4:293-295 '63.

1. From the Department of Microbiology, Faculty of Veterinary Medicine, Wroclaw School of Agriculture.
(PASTEURELLA INFECTIONS) (PHAGOCYTOSIS)

POLAND

FERTIG, Stanislaw, JASINSKA Stanislawa, KUPROWSKI, Marian, and WACHNIK, Zenon; Chair of Microbiology (Katedra Mikrobiologii) (Director: Prof. Dr. Adam SKURSKI), Chair of Epizootiology (Katedra Epizootiologii) (Director: Prof. Dr. Tadeusz SOBIECH), and the Chair of Pathological Anatomy (Katedra Anatomii Patologicznej) (Director: Prof. Dr. Aleksander ZAKRZEWSKI), all of the WSR [Wyzsza Szkola Rolnicza, Higher School of Agriculture] in Wroclaw

"Diagnosis of Listeriosis in Sheep."

Warsaw-Lublin, Medycyna Weterynaryjna, Vol 19, No 7, Jul 63, pp 386-391

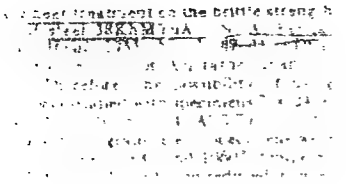
Abstract: [Authors' English summary] Authors describe centers of listeriosis in sheep in areas where the disease was not previously recorded. They find that histological examinations are of great diagnostic value, and that focal, purulent inflammation of the cerebral stem appears to be a typical pathognomic characteristic of this disease in sheep. There are 26 references: 4 each Soviet and Polish, 3 Western, and 14 German.

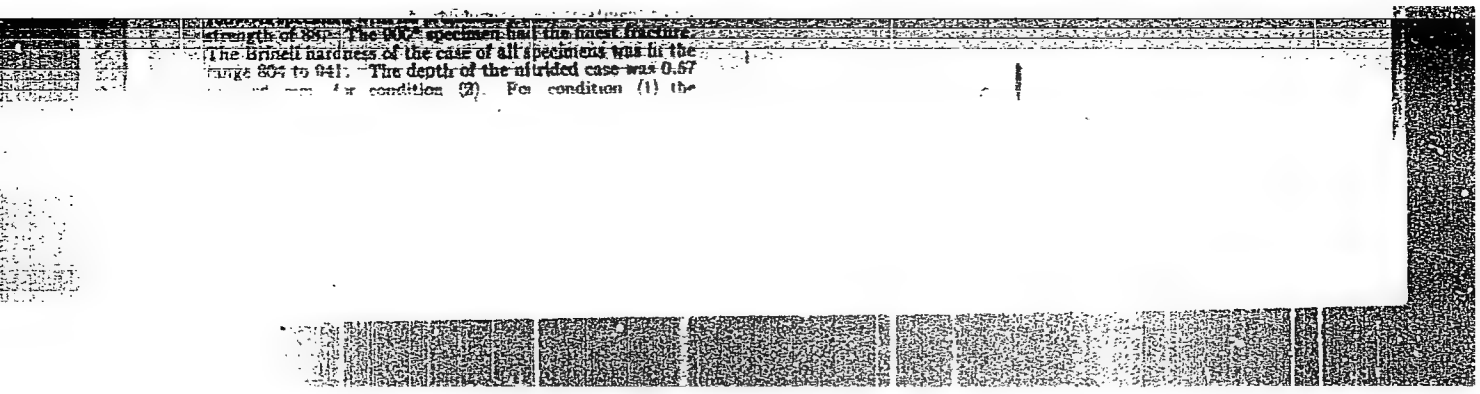
1/1

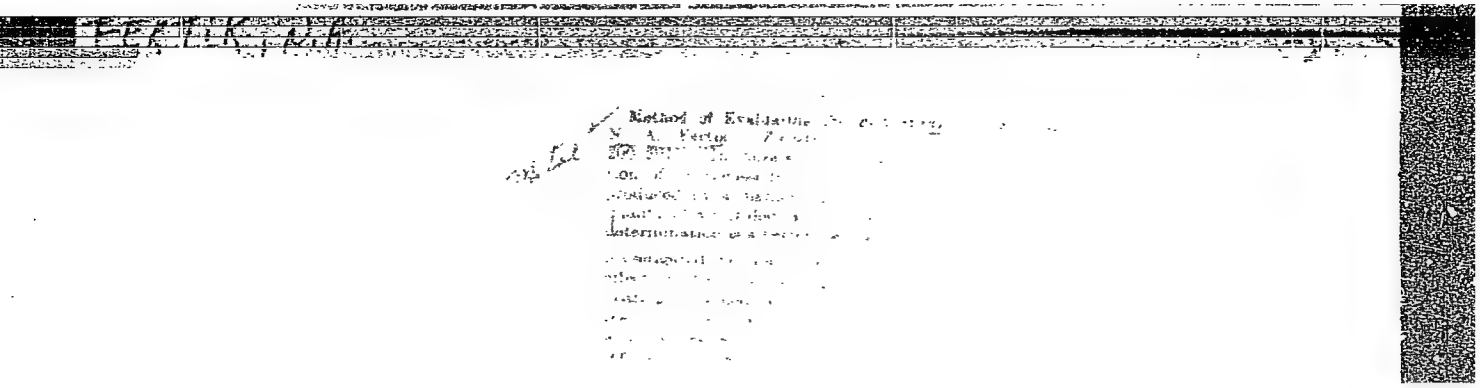
FERTIK, I.M.; LIBERTAL', R.Sh.; PLEMYANNIKOVA, M.Ye.

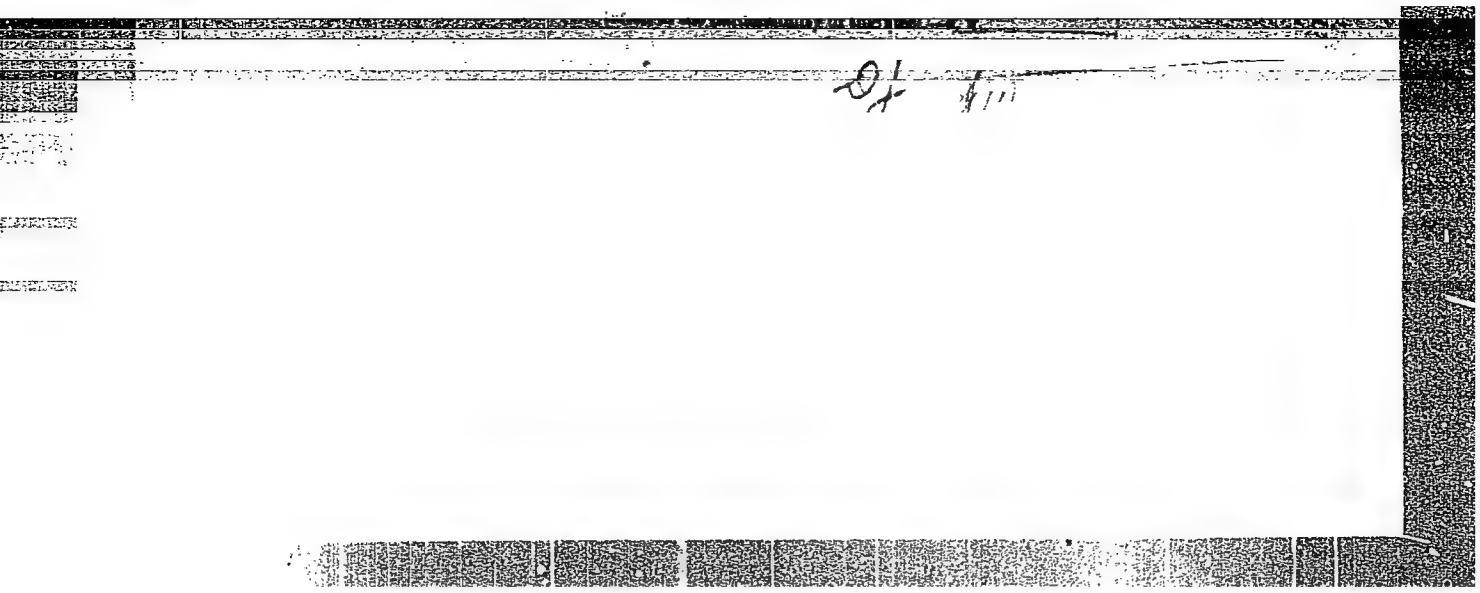
Tuberculin-trypan test; increase of sensitivity in the method of detection of allergy. Probl. tuberk., Moskva no.1:46-51 Jan-Feb 52. (CIML 21:5)

1. Docent for Fertik. 2. Of the Children's Division (Head--Docent I.M. Fertik) and of the Department of Microbiology (Consultant--Prof. V.M. Berman), Leningrad Scientific-Research Tuberculosis Institute (Director--A.D. Semenov).









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SOV/129-60-3-4/16

AUTHOR: Fertik, N. A. (Engineer)

TITLE: Increased Brittleness of Nitrided Layer of Steel 38KhMYuA

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, Nr 3, pp 13-16 (USSR)

ABSTRACT: This is a description of experimental tests conducted for verification of causes of increased brittleness in nitrided layers of steel. Such layers are subject to "point chipping" during grinding (the depth of such chipping varies from a few microns to 0.020-0.50 mm). The brittleness is usually evaluated by the shape of diamond pyramid impressions. Large internal stresses are formed in the nitrided layer. The magnitude of these stresses is affected by the initial structure of steel (the method of heat treatment), by the condition of nitrided surface, by the geometry of workpiece, and the method of nitriding. It is supposed that the internal stresses, augmented by the external stresses

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are one of the causes of increased brittleness of nitrided layer, as tested by the diamond pyramid. The tests were conducted on 38KhMYuA steel (composition not given). Six 230-mm-long rods were cut from 38-mm-diameter rod. From the rods Nr 1, 3, and 4 were made six samples from each, three of which had a hole (see Fig. 1). From rods Nr 2 and 5 were made six samples with holes. The samples with holes were nitrided at 525° C for a period of 20 hr and at 540° C for 15 hr. The samples without holes, after tin-plating of faces, were nitrided at 525° C for 25 hr and at 540° C for 45 hr. The results of tests are described. The author arrived at the following conclusions. (1) The brittleness of nitrided layer during indentation into it of diamond pyramid (average value of 10 impressions) can serve as a criterion for evaluation of the tendency of nitrided layer to "rash" during grinding. (2) The brittleness evaluated by the shape of the diamond pyramid impressions

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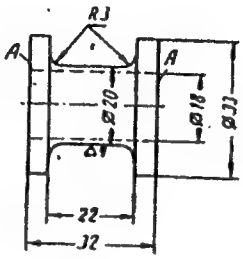
Fig. 1. Sample for testing brittleness of the nitrided layer.



depends not only on the true brittle strength of the layer but on the magnitude of compression stresses in it as well. With other conditions equal, the higher the compression stresses in the layer, the higher is the possibility of "rash" formation during grinding. (3) The formation of "rash" on nitrided layer is due to compression stresses caused by the sharp heating of the surface. (4) The increase of hardness in the

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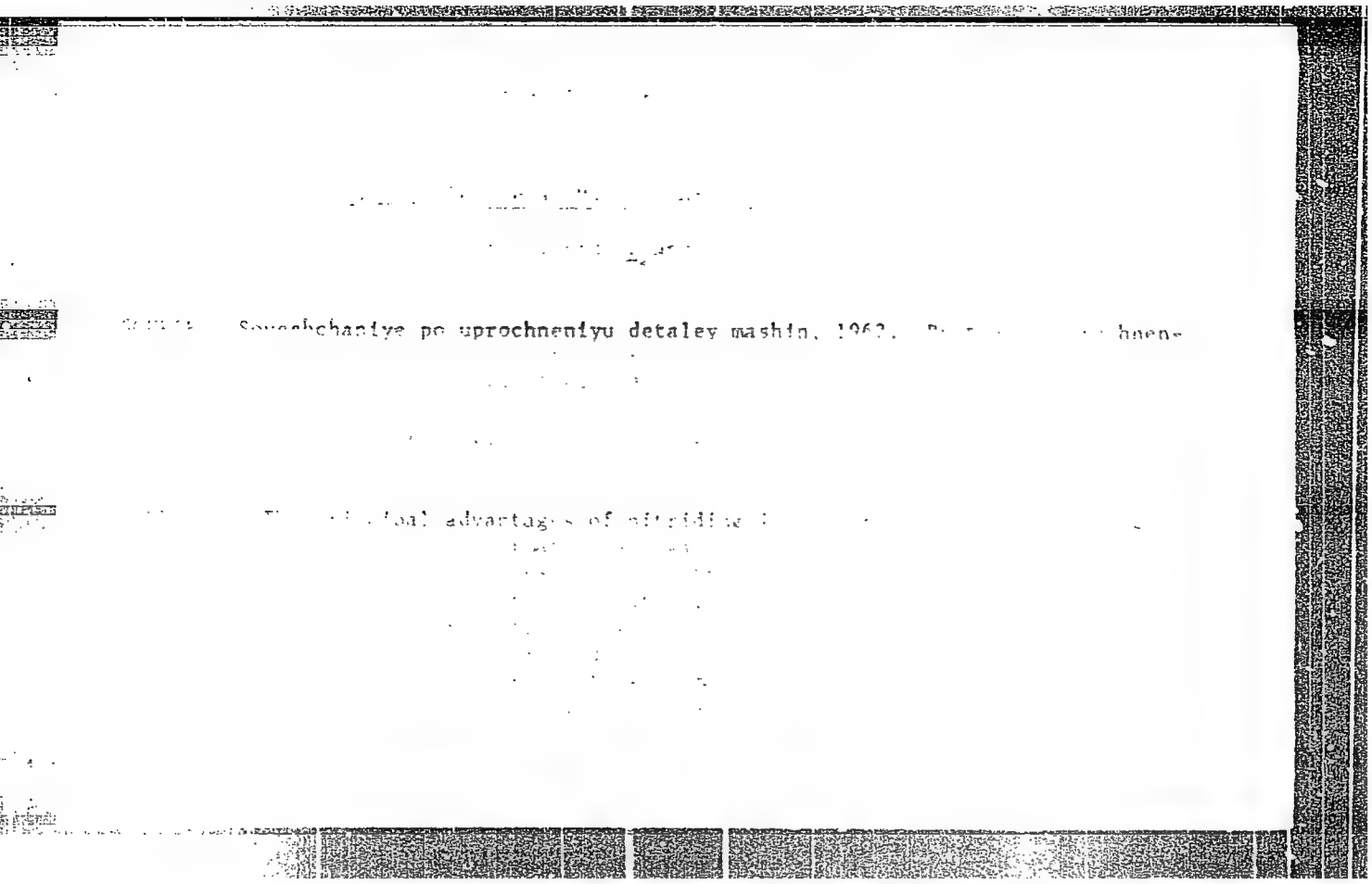
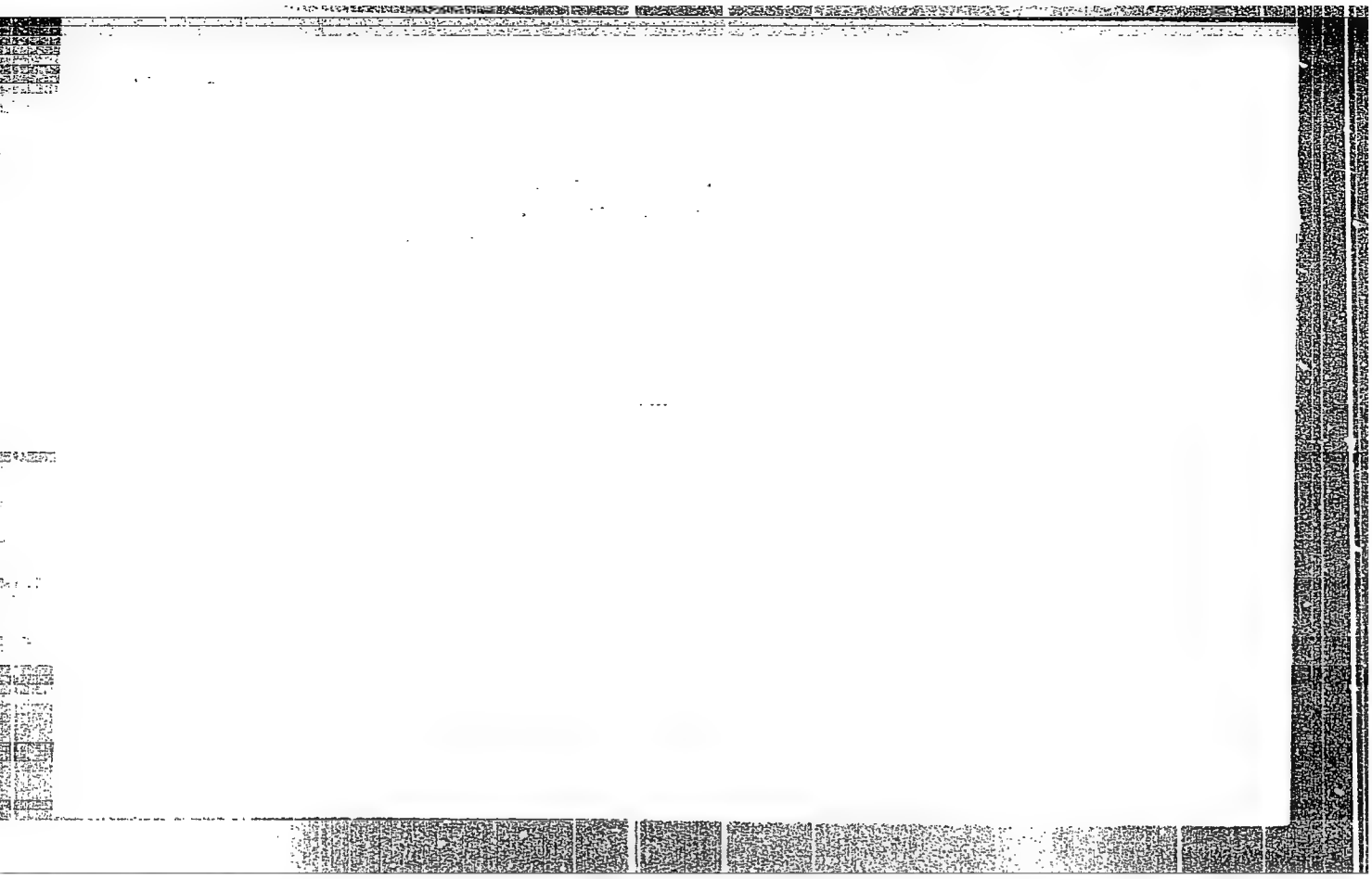
core of a workpiece made from nitrided steel is followed by the increase of nitrogen content and of compression stresses in the layer, which results in the increase of its brittleness. (5) The more complete the hardening (the higher is the hardness after hardening), the lower is the brittleness of nitrided layer. Hardening from 900° C, instead of 950° C, increases the brittle strength of the layer in bending test and lowers its brittleness during the tests with diamond pyramid. (6) The lowering of layer's brittleness, which is observed with the increase of nitriding temperature, is explained by lowering of compression stresses. There are 7 figures and 4 Soviet references.



Soveshchaniye po uprochneniyu detaley mashin, 1962.

electric furnace with automatic temperature regulation was used. The furnace



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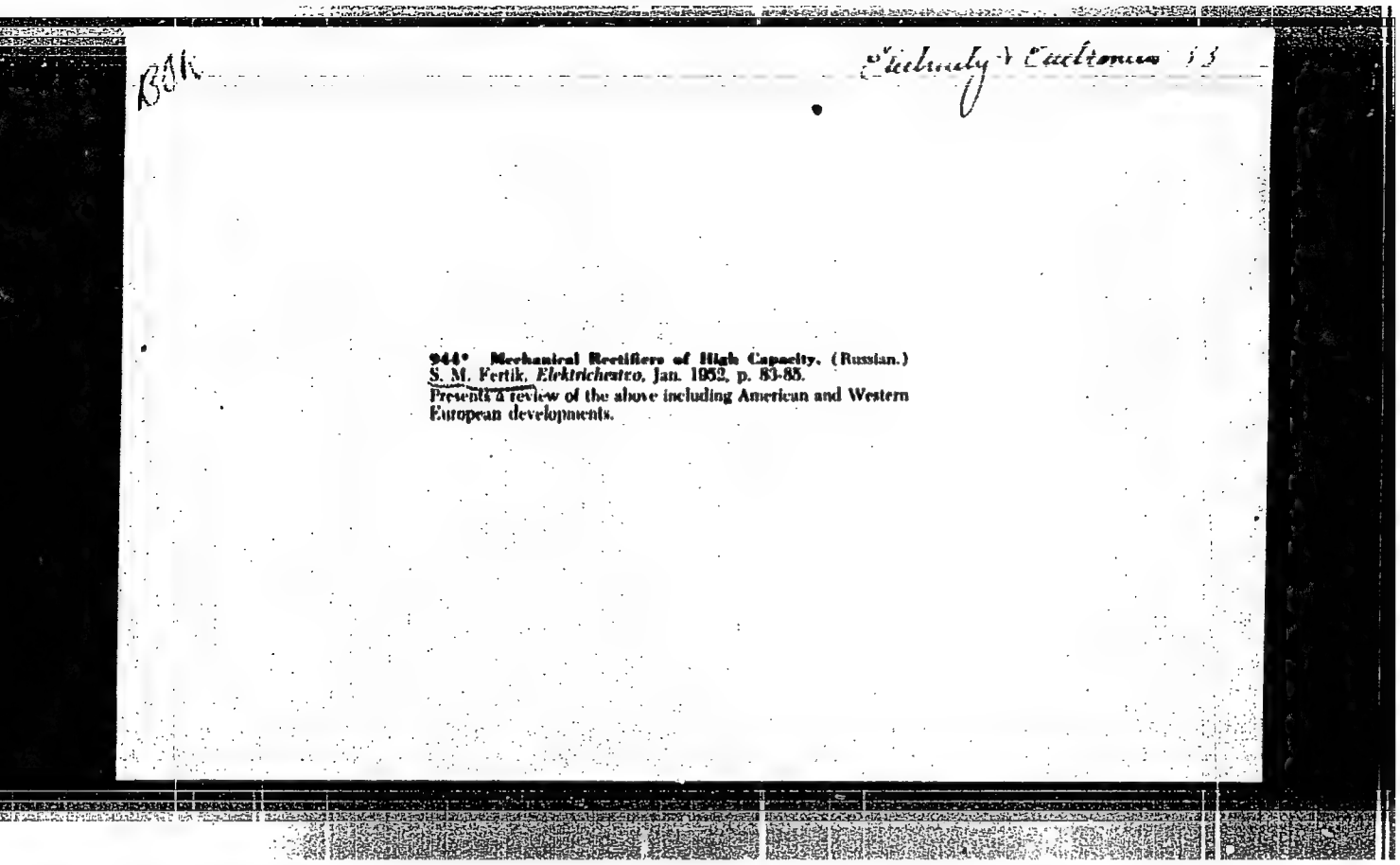

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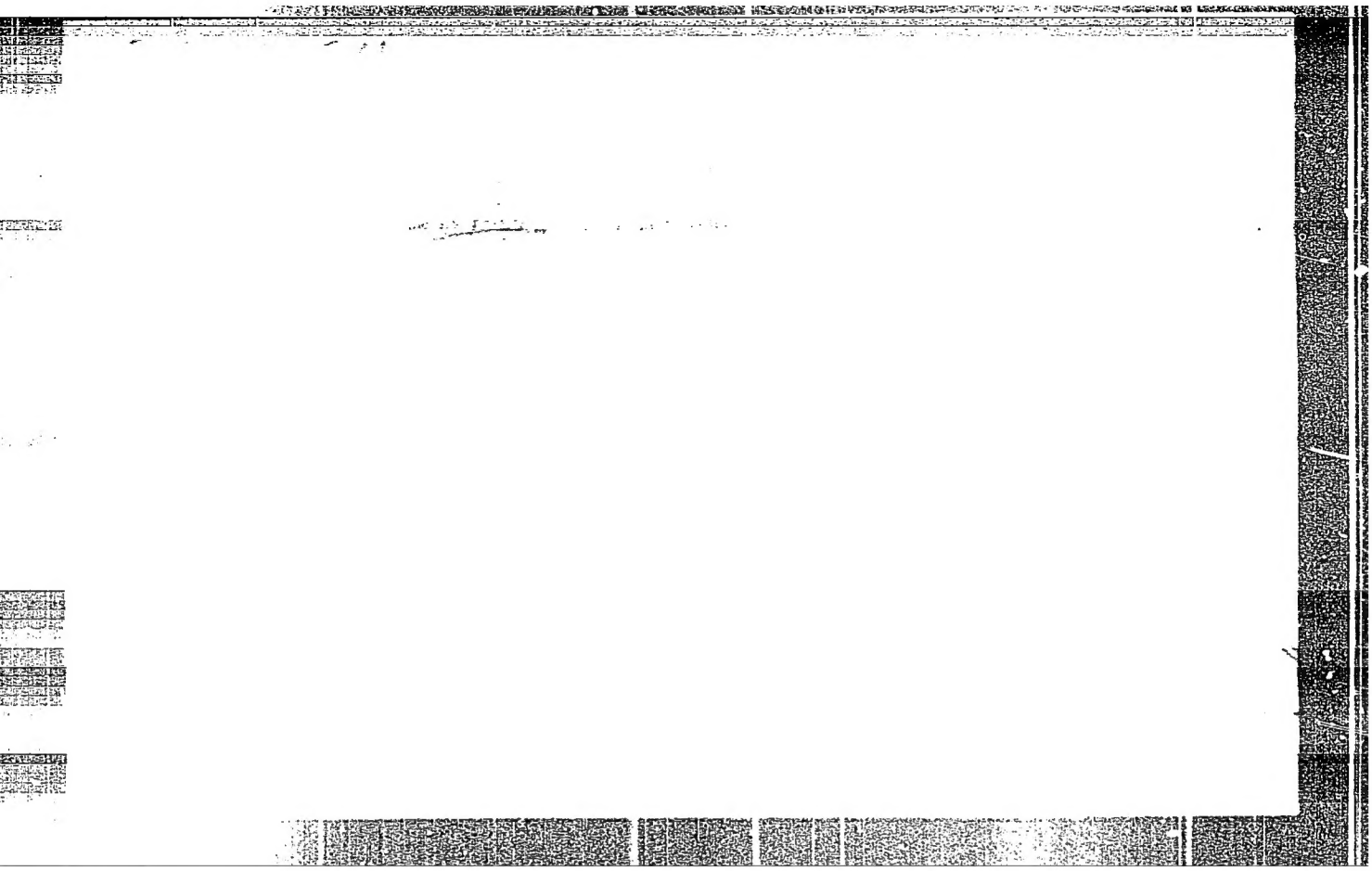

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AUTHORS: Leont'yev, L.B., Engineer, and Fertik, S.M., Docent

TITLE: Unattended Electron-Ray Oscillographs for Recording Single Pulses

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1959, Nr 5, pp 16-25 (USSR)

ABSTRACT: The authors describe the specific features of unattended electron-ray oscillographs for recording single pulses. One of the authors worked on such a device already in 1940/41 together with N.A. Chebotarev, Candidate of Technical Sciences who was at that time a student at KhETI. The authors describe a small-size unattended electron-ray oscillograph EMAO-2 of which the circuit diagram is shown in Figure 4. This device is designed for recording single pulses of a duration of up to 15 microseconds using ordinary 35 mm camera film. An 7L055 electron-ray tube was used whereby the electrode voltages were selected higher than indicated in the factory data records. The voltage at the second anode was increased to 1,200 volts and at the

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third anode to 3,200 volts. Figures 5, 6 and 7 show photographs of this device. It has the dimensions of 20x18x23 cm and may be combined with a camera whereby the dimensions increase to 20x18x50 cm. During the period of 1953-1954 a normal-size unattended oscillograph AEO-1 was developed with the participation of Docent A.L. Vayner. This device has the dimensions 90x24x100 cm and is combined with a "Zenit" camera using 35 mm film. The device may be used for investigating lightning protectors. The scanning duration is 15, 50 and 150 microseconds. The device has slave sweep and may be operated by radio. Batteries 6STE-128 and converter MA-250M provide the required power for about 5 hours of operation. The cameras used for the EMAO-2 and the AEO-1 use "Yupiter-3" lenses (F = 1:1.5). The EMAO-2 may be also operated by radio.